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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/604,353

07/14/2003

Iosif R. Korsunsky

1352

25859

7590

06/07/2004

WEI TE CHUNG
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EXAMINER

ZARROLI, MICHAEL C

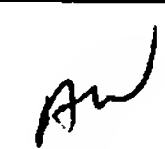
ART UNIT

PAPER NUMBER

2839

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/604,353		KORSUNSKY ET AL.	
	Examiner		Art Unit	
	Michael C. Zarroli		2839	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-10,14 and 20 is/are rejected.
- 7) ☒ Claim(s) 7,11-13 and 15-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/14/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “connecting portion...formed into a solder pad” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The abstract of the disclosure is objected to because of the implied language “in accordance with.” Correction is required. See MPEP § 608.01(b).

3. The disclosure is objected to because of the following informalities:
Paragraph [0001] information should be updated. Paragraph [0008] line 1, “OLE_LINK3.” Paragraph [0025] first word misspelled.

Appropriate correction is required.

4. The disclosure is objected to because of the following informalities: The pages are not numbered.

Appropriate correction is required.

Claim Objections

5. Claim 2 objected to because of the following informalities: In line 2, "OLE_LINK3." Appropriate correction is required.
6. Claim 7 objected to because of the following informalities: In line 2 "theinsulative." Appropriate correction is required.
7. Claim 8 objected to because of the following informalities: In line 2, "thecontacts." Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

9. Claims 3, 5, 8, 10 and, 20 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, its unclear whether the lower surface is also smooth as the upper surface is described. We understand that the upper surface is opposite the lower but is the lower smooth as the upper. The examiner will interpret as such.

Claim 5 is not understood. How are the connecting portions "formed" into a solder pad? Are the balls melted to form a pad or are the balls soldered to a solder pad on the PWB? The examiner will interpret this claim as the latter. Please see also the first drawing objection above.

Claim 8 recites the limitation "the solder pads" in line 2. There is insufficient antecedent basis for this limitation in the claim. Examiner will interpret this claim as depending from claim 5.

Regarding claim 10 in a claim the method of forming the device is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight. Should this claim depend on claim 14? How is the structure different if the solder balls are fused to

the PWB before being or after the contacts are assembled to the insulative housing?

Claim 20 recites that the pick-up cap has a suction facing away from the housing. What is this suction and how does it work? Is this suction shown on the drawings? The examiner will interpret this suction to be surface tension on the pick up cap. Also, on the last page of the claims the phrase “while is removed” is grammatically awkward.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country, in public use, or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-2, 4-6 and, 8-10 rejected under 35 U.S.C. 102(b) as being clearly anticipated by Lemke et al.

Lemke discloses an electrical connector assembly mountable (fig. 5) on a printed circuit board (204), comprising: an insulative housing (12); a plurality of contacts (fig. 12) received in the insulative housing, each contact comprising a contacting

portion (84) and a connecting portion (82, 100) adapted for being soldered to the printed circuit board; and a pick-up cap (116) removably assembled to the insulative housing (col. 5 lines 49-52) and retaining and positioning the contacts in the insulative housing (figure 12 & figure 2).

Regarding claim 2 Lemke discloses that pick up cap comprises a plurality of slots (142, 144) wherein the contacting portions of the contacts are received in the slots (fig. 5).

Regarding claim 4 Lemke discloses that the contact comprises a retention portion (218) that connects the contacting and connecting portions.

Regarding claims 5 and 8 (as best understood) Lemke discloses that the connecting portions of the contact are soldered to a solder pad (fig. 5) and that these pads are coplanar with the mounting surface of the insulative housing.

Regarding claim 6 Lemke discloses that the insulative housing comprises a mating surface (18) and an opposite mounting surface (16), the housing defines a plurality of passages (34, 36 etc.) extending from the mating surface toward the mounting surface (fig. 12), and wherein the contacts (84) are respectively received in the passages.

Regarding claim 9-10 (as best understood) Lemke discloses (e.g. 1st embodiment at 136 & 140) that the insulative housing comprises a polarizing tab wherein the pick up cap has an engaging ear that engages this tab.

12. Claim 14 rejected under 35 U.S.C. 102(b) as being clearly anticipated by Bright.

A method of assembling an electrical connector assembly (title), comprising the steps of: providing an insulative housing (42) comprising a mounting surface (84); providing a pickup cap (12); providing a contact (28); assembling the contact to the pickup cap (fig. 1a top); and assembling the pickup cap with the contact to the insulative housing (fig. 7a to 7b).

Allowable Subject Matter

13. Claims 7, 11-13 and, 15-19 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. Claim 20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

15. Claims 3 and, 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

16. The following is a statement of reasons for the indication of allowable subject matter: In combination with claims 1 and 2, ribs on the lower smooth surface with the contact receiving slots recessed in the slots. In combination with claims 1 and 4, each passage having the opposite slots that define a pair of steps in the middle with each contact comprising a pair of shoulders formed on the contacting portion. In combination with claims 1 and 9, the insulative housing having a peripheral wall that extends vertically from the housing base. In combination with claim 14, the slot in the pick up cap with the contacting portion of the contact is received in the slot.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hsiao et al teaches solder ball contacts in slots of an insulative housing. Yu teaches a pick up cap with contacts mounted on an insulative housing. Hsu teaches an insulative housing with contacts and a pick up

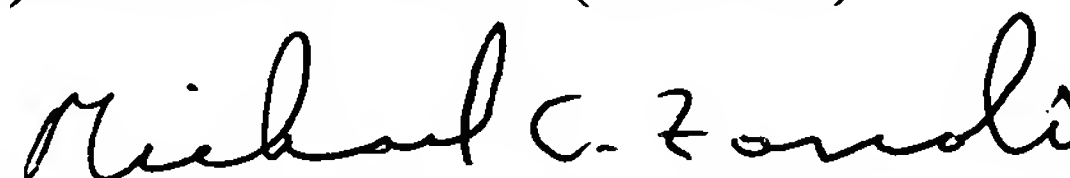
cap like device. Howell et al teaches a pick up cap and insulative housing.

Johnson et al teaches an insulative housing with ribs and slots.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Zarroli whose telephone number is 571-272-2101. The examiner can normally be reached on 7:30 to 3:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Feild can be reached on (571) 272-2800 ext 39. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael C. Zarroli
Primary Examiner
Art Unit 2839

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